

CD NO

Sanitized Copy Approved for Release 2011/09/21 : CIA-RDP80-00809A000700010728-1

50X1-HUM

SECURITY INFORMATION

S-E-C-R-E-T

SECRET

It was obvious that the precision method warranted transfer from the experimental to the production stage. But neither the plant director, Moykin, nor the chief engineer, Kholin, showed any great speed to bring about this change, despite the insistent offer of further help from the Orgtyazhmash Institute.

In July 1950, the institute prepared a draft order in accordance with the program of the Ministry of Heavy Machine Building, proposing that the application of precision casting be accelerated. The Main Administration of the Boiler and Turbine Industry approved the project and sent it on to the plant directors, requesting a decision within 10 days. At the end of 10 months, however, no one had made a decision on the project, and no one is doing anything about introducing precision casting into production.

How is it possible that the draft order was forgotten in the main administration and in the ministry? The answer lies in the fact that their leading officials share the conservative attitude of the plant directors. Berezin, the chief engineer of the Main Administration of the Boiler and Turbine Industry, and Deputy Minister Zherbin, the person responsible for pushing the new method, are well briefed on the status of precision casting in Leningrad plants, including the Plant imeni Lenin. Nevertheless, they are indifferent to the backward technology and the negative attitudes toward scientists and innovators which are found in these plants.

Scientific workers of the Boiler and Turbine Institute imeni Polzunov, working with the Orgtyazhmash Institute, have begun to carry out research on the properties of refractory and austenite steel in its cast state. The success of this research should effect the solution of an important problem in the production of cast billets for rotor blades capable of withstanding high tensions. The research plan submitted by the institute for joint work received verbal approval in the ministry, and much energy was put into its preparation. Now, however, it has become apparent that the ministry cannot afford to finance this moderate project, although it promises to bring a saving of millions of rubles.

The unfortunate situation is not confined to precision casting. Metallurgists of the Orgtyazhmash Institute, together with engineers of the Krasnogvardeyets Plant, recently established a technology of precision stamping of turbine blades. But the achievements of this effort are not being put to practical use.

The great prospects of turbine building in the USSR, and especially in Leningrad, call for a radical change. The production of turbine blading should not be scattered among separate shops, but ought to be concentrated and centralized. A single enterprise should supply the blading for all turbine-building plants. Another measure which would contribute to the continuity and simplification of production would be the establishment of specialized plants for precision casting, precision stamping, and cold rolling of profiled stock, all on a mass-production scale.

The conservative views holding back the realization of these progressive measures must be overcome. -- S. Russiyan, director, Metallurgical Division, Leningrad Branch, Orgtyazhmash Institute

SWITCH FROM CASTING TO WELDING -- Leningradskaya Pravda, 1 Apr 51

In the manufacture of some turbine diaphragms at the Leningrad Metal Plant imeni Stalin, welding was recently substituted for casting. This constituted a virtual revolution in technology, greatly speeding up the manufacturing time for the turbine and bringing great savings in money and material.

SECURITY INFORMATION

- 2 -

S-E-C-R-E-T

SECRET

SECURITY INFORMATION

S-E-C-R-E-T SECRET

50X1-HUM

MODERNIZE OLD DESIGNS -- Riga, Sovetskaya Latvya, 9 Jan 51

The Riga Turbine Machinery Plant made great strides during the postwar Five-Year Plan. High-speed metal cutting was introduced, Stakhanovite methods were applied, and high-duty attachments and tools were made in the plant shops. Labor productivity rose sharply as a result of these measures, and the 1950 plan was fulfilled ahead of time.

Work has recently been going on under Chief Engineer Orlov involving innovations in metallurgy and standardization of parts, both measures being complementary to the over-all effort to modernize the design and simplify the construction of machines already in production. Special targets of this effort are the items designed 15-20 years ago, which are still in production.

The plant foundry is now producing the super hard pig iron developed by Stalin Prize winner Mil'man. This remarkable alloy has superior casting qualities and is easily machined. It is estimated that parts made from it would cost 35-40 percent less than if they were made of steel.

At present, the plant is utilizing so-called modified pig iron, which is much more durable than grey iron. Hydroturbine wheels, formerly made of cast steel, have been redesigned, and are now made of the modified pig iron, which lowers their cost 30 percent.

Covers for turbopump oil-coolers are now made of cast iron instead of from milled steel. Turbopump drainage manifolds are made of steel instead of red copper, a change which is saving 60 kilograms of valuable metal for each machine. Some precision casting is being carried out.

Considerable standardization of fastening parts of the machines has been effected, reducing the number of different component items 25 percent.

The Scientific Research Institute for Hydraulic Machinery has aided the plant a great deal in its recent efforts. The TsK KP(b) of Latvia has commended the plant's initiative, and recommended that other Riga enterprises review the possibilities of revising the designs of old parts which are still being used in production. -- N. Leont'yev, director, Riga Turbine Machinery Plant

SHIP PUMPS TO GES, CANAL PROJECTS -- Yerevan, Kommunist, 7 Mar 51

The Yerevan Small Hydroturbines Plant, which put out its first turbine in 1947, now produces four types of hydroturbines and four types of centrifugal pumps. Two of these hydroturbines, however, are still classed as experimental, being the first of their type produced in the USSR.

Hydroturbines from the plant are installed in the Azatek, Agarak, and Artashat GES in Armenian SSR; others are in operation in other republics. Recently, the plant shipped consignments of pumps to the construction sites of the Kuybyshev GES and the Volga-Don Canal. Preparations are now being made for production of hydroturbines with a capacity of 77 kilowatts. For 1951, the plant has been called upon to build two new types of turbines and to increase its types of centrifugal pumps to eight.

The plant has virtually grown up during the postwar Five-Year Plan. It started out with only 40 workers and 17 machine tools, and received its castings under a cooperative arrangement with the Yerevan Compressor Plant. New shops and equipment have since been added, and the plant's capacity has increased many times. It should be remarked, however, that the Ministry of Machine and Instrument Building does not consistently manage to keep the plant supplied with sufficient equipment.

SECURITY INFORMATION

S-E-C-R-E-T SECRET

SECURITY INFORMATION
S-E-C-R-E-T**SECRET**

50X1-HUM

During 1950, the plant received scientific assistance from the Water and Power Institute of the Academy of Sciences, Armenian SSR, and from the Polytechnical Institute imeni Karl Marks. -- Sh. Nersesyan, chief engineer, Yerevan Small Hydroturbines Plant

Yerevan, Kommunist, 15 Mar 51

The foundry of the Yerevan Small Hydroturbines Plant has established ahead of schedule the casting of parts for pumps and hydroturbines of new types. One brigade is turning out castings of supports for pumps at the rate of 37-38 per shift, as against the norm of 25 per hour.

Yerevan, Kommunist, 11 Apr 51

A great many rejects are turning up among the products of the Yerevan Small Hydroturbines Plant.

- E N D -

SECURITY INFORMATION

- 4 -

S-E-C-R-E-T**SECRET**